Docket No.: I4303.0053
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Chakki Kavoori et al.

Application No.: 09/927,906 | Confirmation No.: 5185

Filed: August 9, 2001 | Art Unit: 2195

For: Method and apparatus for software-based allocation and scheduling of hardware resources in a wireless communication device | Examiner: S. J. Ali

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed with two months after the Notice of Appeal filed in this case on August 13, 2007, and is in furtherance of said Notice of Appeal.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

XI. Claims Appendix
XII Evidence Appendix
XIII. Related Proceedings Appendix

I. REAL PARTY IN INTEREST

Based on information supplied by Appellant and to the best of the Appellant's legal representative's knowledge, the real party of interest is the assignee, Infineon Technologies AG.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Pursuant to the Office Action dated February 12, 2007, the prior art rejections pending are as follows: (1) claims 1-4, 6, 8, 9, 11-13, 15, and 26-28 under 35 USC 103(a) as being unpatentable over Prestifilippo et al. (US Patent No. 5,446,889; hereinafter, "Prestifilippo") in view of Kodosky et al. (US Patent No. 6,608,638; hereinafter, "Kodosky"); and (2) claims 32 and 33 under 35 USC 103(a) as being unpatentable over Prestifilippo in view of Kodosky, and further in view of Chintalapati et al. (US Patent Appln. No. 2002/0120710; hereinafter, "Chintalapati"). Thus, claims 1-40 are pending in the application, with claims 1-4, 6, 8, 9, 11-13, 15, 26-28, 32 and 33 rejected, claims 5, 7, 10, 14, 16, 17, and 34 objected to, claims 29-31 allowed, and claims 18-25 and 35-40 withdrawn from consideration. Thus, claims 1-4, 6, 8, 9, 11-13, 15, 26-28, 32 and 33 are on appeal.

IV. STATUS OF AMENDMENTS

Appellant filed an Amendment After Final Rejection on June 12, 2007; no claim amendments were presented. The Examiner responded to the Amendment After Final Rejection in an Advisory Action mailed July 23, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The paragraph numbers below refer to those in the published application.

Independent claim 1 is directed to, in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a processor *[reference numeral 154, for example; Figs. 1A and 1B]*, a computer readable memory *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]*, and at least one hardware resource *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* coupled to each other, a method of operating the hardware resources. The method includes a) locating a first address in the computer readable memory of the wireless communication device, the first address containing operating information associated with a first hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; b) transmitting operating information associated with the first address to the first hardware resource *[reference numeral 4004; paragraph 95; Fig 4A]*; c) reading a pointer associated with the first address that locates a subsequent address for a subsequent hardware resource *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*; and d) repeating steps a) through c) for a quantity of pointers respectively associated with multiple hardware resources *[reference numeral 4014; paragraph 100; Fig. 4A]*, wherein the method is performed in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

Independent claim 26 is directed to, in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a processor *[reference numeral 154, for example; Figs. 1A and 1B]*, a means for storing a list of information *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]*, and at least one hardware resource *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* coupled to each other, a method of operating the hardware resources. The method includes a) locating a first address in the means for storing a list of information of the wireless communication device, the first address containing operating information associated with a first hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; b) transmitting operating information associated with the first address to the first hardware resource *[reference numeral 4004; paragraph 95; Fig. 4A]*; c) reading a pointer associated with the first address that locates a subsequent address for a subsequent hardware resource *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*; and d) repeating steps a) through c) for a quantity of pointers respectively associated with multiple hardware resources, wherein the method is performed in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

Independent claim 27 is directed to a method of controlling hardware resources *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a processor *[reference numeral 154, for example; Figs. 1A and 1B]* and a memory *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]* coupled to each other. The method includes locating a first memory address in the memory associated with a first hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; transmitting control information associated with the first memory address to the first hardware resource to enable utilization of the first hardware resource *[reference numeral 4004; paragraph 95; Fig. 4A]*; and determining a pointer that is associated with the first address that locates another memory address in the memory associated with a hardware resource that can be subsequently utilized *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*, wherein the method is performed in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

Independent claim 28 is directed to an apparatus for managing hardware resources *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a controller *[reference numeral 154, for example; Figs. 1A and 1B]* and a memory *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]*. The apparatus includes means for locating a first memory address in the memory associated with a first hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; means for transmitting from the controller control information associated with the first memory address to the first hardware resource *[reference numeral 4004; paragraph 95; Fig. 4A]*; and means for determining a pointer that is associated with the first memory address that locates another memory address in the memory associated with another hardware resource *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*, wherein the method is performed in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

Independent claim 32 is directed to an apparatus for dynamically implementing changes for scheduling hardware resources *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a memory *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]*. The apparatus includes a) means for locating a current

address in the memory, the current address containing operating information associated with a current hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; b) means for transmitting operating information associated with the current address to the current hardware resource *[reference numeral 4004; paragraph 95; Fig. 4A]*; c) means for reading a pointer associated with the current address, that identifies another address containing operating information for another hardware resource of the device *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*; and d) means for determining whether the current hardware resource is reused within a system cycle *[reference numeral 4010; paragraph 98; Fig. 4A]*; wherein if the current hardware resource is reused within a system cycle, further including e) means for saving the current hardware resource information from a current use *[reference numeral 4012; paragraph 99; Fig. 4A]*, wherein the changes for scheduling hardware resources are implemented in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

Independent claim 33 is directed to an apparatus for dynamically implementing changes for scheduling hardware resources *[reference numerals 102b, 110b, 11b, 106b; Fig. 1A]* in a wireless communication device *[reference numeral 100a; Fig. 1A]* having a memory *[reference numeral 152, for example; Figs. 1A, 1B, 3A, 3B]*. The apparatus includes a) means for locating a current address in the memory, the current address containing operating information associated with a current hardware resource *[reference numeral 4002; paragraph 94; Fig. 4A]*; b) means for transmitting operating information associated with the current address to the current hardware resource *[reference numeral 4004; paragraph 95; Fig. 4A]*; c) means for reading a pointer associated with the current address, that identifies another address containing operating information for another hardware resource of the device *[reference numeral 4006; paragraphs 96 and 97; Fig. 4A]*; and d) means for determining whether the current hardware resource is reused within a system cycle *[reference numeral 4010; paragraph 98; Fig. 4A]*; wherein if the current hardware resource is not reused within a system cycle, further including e) means for determining whether operation should be terminated *[reference numeral 4014; paragraph 100; Fig. 4A]*, wherein the changes for scheduling hardware resources are implemented in real time while the wireless communication device is operating *[paragraphs 17 and 90]*.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(1) Whether claims 1-4, 6, 8, 9, 11-13, 15, and 26-28 were erroneously rejected under 35 USC 103(a) as being unpatentable over Prestifilippo et al. (US Patent No. 5,446,889; hereinafter, "Prestifilippo") in view of Kodosky et al. (US Patent No. 6,608,638; hereinafter, "Kodosky"); and

(2) Whether claims 32 and 33 were erroneously rejected under 35 USC 103(a) as being unpatentable over Prestifilippo in view of Kodosky, and further in view of Chintalapati et al. (US Patent Appln. No. 2002/0120710; hereinafter, "Chintalapati").

VII. ARGUMENT

(1) Claims 1-4, 6, 8, 9, 11-13, 15, and 26-28 were erroneously rejected under 35 USC 103(a) as being unpatentable over Prestifilippo et al. (US Patent No. 5,446,889; hereinafter, "Prestifilippo") in view of Kodosky et al. (US Patent No. 6,608,638; hereinafter, "Kodosky").

a. Independent claim 1, and dependent claims 2-17:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of operating hardware resources in a wireless communication device, as required by independent claim 1 and dependent claims 2-17. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 1, and dependent claims 2-17, are patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of

hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 1, and dependent claims 2-17, are patentable over the applied references for this additional reason.

During the interview conducted on May 17, 2007, the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "first address containing operating information associated with a first hardware resource," as required by claims 1-17.

b. Independent claim 26:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of operating hardware resources in a wireless communication device, as required by independent claim 26. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 26 is patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless

communication device. Thus, independent claim 26 is patentable over the applied references for this additional reason.

During the interview conducted on May 17, 2007, the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "first address containing operating information associated with a first hardware resource," as required by independent claim 26.

c. Independent claim 27:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of controlling hardware resources in a wireless communication device, as required by independent claim 27. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 27 is patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless

communication device. Thus, independent claim 27 is patentable over the applied references for this additional reason.

During the interview conducted on May 17, 2007, the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests "transmitting control information associated with [a] first memory address," as required by claim 27.

d. Independent claim 28:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of managing hardware resources in a wireless communication device, as required by independent claim 28. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 28 is patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 28 is patentable over the applied references for this additional reason.

During the interview conducted on May 17, 2007, the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests "means for locating a first memory address in the memory associated with a first hardware resource," as required by claim 28.

e. Independent claim 29, and dependent claim 31:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of operating hardware resources in a wireless communication device, as required by independent claim 29 and dependent claim 31. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 29, and dependent claim 31, are patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 29, and dependent claim 31, are patentable over the applied references for this additional reason.

During the interview the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following

the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "locating a current address in a memory, the current address containing operating information associated with a current hardware resource of the plurality of hardware resources," as required by claims 29 and 31.

f. Independent claim 30:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of operating hardware resources in a wireless communication device, as required by independent claim 30. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 30 is patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 30 is patentable over the applied references for this additional reason.

During the interview the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary

identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "locating a current address in a memory, the current address containing operating information associated with a current hardware resource of the plurality of hardware resources," as required by claim 30.

(2) Claims 32 and 33 were erroneously rejected under 35 USC 103(a) as being unpatentable over Prestifilippo in view of Kodosky, and further in view of Chintalapati et al. (US Patent Appln. No. 2002/0120710; hereinafter, "Chintalapati").

a. Independent claim 32, and dependent claim 34:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of dynamically implementing changes for scheduling hardware resources in a wireless communication device, as required by independent claim 32 and dependent claim 34. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 32, and dependent claim 34, are patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 32, and dependent claim 34, are patentable over the applied references for this additional reason.

During the interview the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "means for locating a current address in the memory, the current address containing operating information associated with a current hardware resource," as required by claims 32 and 34.

b. Independent claim 33:

Neither Prestifilippo nor Kodosky, alone or in combination, suggests a method of dynamically implementing changes for scheduling hardware resources in a wireless communication device, as required by independent claim 33. Prestifilippo is instead directed generally to a linked-list method, and Kodosky is directed generally to a computer-implemented system and method for generating a hardware implementation of graphical code. There is no logical basis for combining these references in the context of operating resources of a wireless communication device. Thus, independent claim 33 is patentable over the applied references for at least this reason.

Additionally, the applied references do not suggest performing in real time while the wireless communication device is operating, as also required by the claimed invention. While the portion of Kodosky to which the Examiner refers mentions "real time," it is in the context of a bus routing timing and trigger signals while creating the hardware element. The claimed invention, on the other hand, is designed for real time coordinating, via scheduling and allocation, a set of hardware resources. Thus, while Kodosky does discuss a real time bus routing function during hardware creation, it does not suggest real time operation of hardware, let alone a wireless communication device. Thus, independent claim 33 is patentable over the applied references for this additional reason.

During the interview the Examiner acknowledged that the applied references do not teach or suggest a method of operating hardware resources in a wireless communication device. Following the interview the Examiner "performed a very quick search," and in the Interview Summary identified Storino et al. (US 2002/0115428) and Koplar et al. (US 2002/0112250). Neither Storino et al. nor Koplar et al. has been applied against the claims. In any event, Appellant notes that neither of these references teaches or suggests a "means for locating a current address in the memory, the current address containing operating information associated with a current hardware resource," as required by claim 33.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto in the Claims Appendix.

IX. EVIDENCE

As indicated in the Evidence Appendix, no evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

X. RELATED PROCEEDINGS

As indicated in the Related Proceedings Appendix, no related proceedings are referenced in II. above.

Please charge any fee, except for the Issue Fee, that may be necessary for the continued pendency of this application to our Deposit Account No. 50-2215.

Dated: October 15, 2007

Respectfully submitted,

By Laura C. Brutman

Laura C. Brutman
Registration No.: 38,395
DICKSTEIN SHAPIRO LLP
1177 Avenue of the Americas
New York, New York 10036-2714
(212) 277-6500
Attorney for Appellant

CLAIMS APPENDIX

Claims 1-4, 6, 8, 9, 11-13, 15, 26-28, 32 and 33 are on appeal:

Claim 1. In a wireless communication device having a processor, a computer readable memory, and at least one hardware resource coupled to each other, a method of operating the hardware resources comprising the steps of:

a) locating a first address in the computer readable memory of the wireless communication device, the first address containing operating information associated with a first hardware resource;

b) transmitting operating information associated with the first address to the first hardware resource;

c) reading a pointer associated with the first address that locates a subsequent address for a subsequent hardware resource; and

d) repeating steps a) through c) for a quantity of pointers respectively associated with multiple hardware resources,

wherein the method is performed in real time while the wireless communication device is operating.

Claim 2. The wireless communication device recited in claim 1 wherein the method further comprises the step of:

e) returning to the first pointer when all of the quantity of pointers has been exhausted in a list stored in memory.

Claim 3. The wireless communication device recited in claim 1 wherein the method further comprises the step of:

e) repeating steps a) through c) for each of multiple sets of operating information associated with multiple uses of the hardware resource.

Claim 4. The wireless communication device recited in claim 3 wherein the multiple sets of operating information are utilized within a system cycle.

Claim 5. The wireless communication device recited in claim 1 wherein the method further comprises the step of:

e) repeating steps a) through d) for a plurality of entries of operating information for the hardware resource, wherein each of the entries is respectively associated with a reuse of the hardware resource for a different application at a different point in time.

Claim 6. The wireless communication device recited in claim 1 wherein the information for operating the first hardware resource includes semi-static hardware control parameters.

Claim 7. The wireless communication device recited in claim 6 wherein the semi-static hardware control parameters include flags, parameters, or states for the first hardware resource.

Claim 8. The wireless communication device recited in claim 1 wherein the information for operating the first hardware resource includes dynamic hardware control parameters.

Claim 9. The wireless communication device recited in claim 8 wherein the dynamic hardware parameters are controlled by dedicated hardware resources.

Claim 10. The wireless communication device recited in claim 7 wherein the hardware resources include at least one tracking finger.

Claim 11. The wireless communication device recited in claim 1 wherein the hardware resources include at least one searcher element.

Claim 12. The wireless communication device recited in claim 1 wherein the hardware resources include at least one downlink transmitter element.

Claim 13. The wireless communication device recited in claim 1 wherein the hardware resources include at least one matched filter element.

Claim 14. The wireless communication device recited in claim 1 wherein the method further comprises the step of:

e) executing a pointer from a primary list of pointers that transfers control to a secondary list with operating information associated with the hardware resource.

Claim 15. The wireless communication device recited in claim 1 wherein only the hardware resources in the secondary list that are grouped together for a specific category are enabled via the pointer from the primary list.

Claim 16. The wireless communication device recited in claim 15 wherein the secondary list has a pointer at the end of the operating information grouped together for the specific purpose, the pointer for the secondary list returning control to the primary list.

Claim 17. The wireless communication device recited in claim 15 wherein the primary list has a plurality of pointers that point to at least one other list that tracks an identification of a user of hardware resources.

Claim 26. In a wireless communication device having a processor, a means for storing a list of information, and at least one hardware resource coupled to each other, a method of operating the hardware resources comprising the steps of:

a) locating a first address in the means for storing a list of information of the wireless communication device, the first address containing operating information associated with a first hardware resource;

b) transmitting operating information associated with the first address to the first hardware resource;

c) reading a pointer associated with the first address that locates a subsequent address for a subsequent hardware resource; and

d) repeating steps a) through c) for a quantity of pointers respectively associated with multiple hardware resources,

wherein the method is performed in real time while the wireless communication device is operating.

Claim 27. A method of controlling hardware resources in a wireless communication device having a processor and a memory coupled to each other, the method comprising the steps of:

locating a first memory address in the memory associated with a first hardware resource;

transmitting control information associated with the first memory address to the first hardware resource to enable utilization of the first hardware resource; and

determining a pointer that is associated with the first address that locates another memory address in the memory associated with a hardware resource that can be subsequently utilized,

wherein the method is performed in real time while the wireless communication device is operating.

Claim 28. An apparatus for managing hardware resources in a wireless communication device having a controller and a memory, the apparatus comprising:

means for locating a first memory address in the memory associated with a first hardware resource;

means for transmitting from the controller control information associated with the first memory address to the first hardware resource; and

means for determining a pointer that is associated with the first memory address that locates another memory address in the memory associated with another hardware resource,

wherein the method is performed in real time while the wireless communication device is operating.

Claim 29. A method of operating a plurality of hardware resources of a wireless communication device comprising the steps of:

a) locating a current address in a memory, the current address containing operating information associated with a current hardware resource of the plurality of hardware resources;

b) transmitting to the current hardware resource operating information associated with the current address to the current hardware resource;

c) reading a pointer in the memory, which is associated with the current address, that identifies another address containing operating information for operating another hardware resource of the plurality of hardware resources; and

d) determining whether the current hardware resource is reused within a system cycle,

wherein if the current hardware resource is reused within a system cycle, further comprising the steps of:

e) saving the current hardware resource information from a current use; and

f) repeating steps b), c), and d) until the current hardware resource is not reused within a system cycle.

Claim 30. A method of operating a plurality of hardware resources of a wireless communication device comprising the steps of:

a) locating a current address in a memory, the current address containing operating information associated with a current hardware resource of the plurality of hardware resources;

b) transmitting to the current hardware resource operating information associated with the current address to the current hardware resource;

c) reading a pointer in the memory, which is associated with the current address, that identifies another address containing operating information for operating another hardware resource of the plurality of hardware resources; and

d) determining whether the current hardware resource is reused within a system cycle, wherein if the current hardware resource is not reused within a system cycle, further comprising the steps of:

e) determining whether operation of the current hardware resource should be terminated; and

f) if operation of the current hardware resource should not be terminated, repeating steps a), b), c), and d) for another hardware resource of the plurality of hardware resources that becomes the current hardware resource.

Claim 31. The method of claim 29, wherein a hardware resource is at least one of a searcher element, a downlink transmitter element, matched filter element, or tracker element.

Claim 32. An apparatus for dynamically implementing changes for scheduling hardware resources in a wireless communication device having a memory, the apparatus comprising:

a) means for locating a current address in the memory, the current address containing operating information associated with a current hardware resource;

b) means for transmitting operating information associated with the current address to the current hardware resource;

c) means for reading a pointer associated with the current address, that identifies another address containing operating information for another hardware resource of the device; and

d) means for determining whether the current hardware resource is reused within a system cycle;

wherein if the current hardware resource is reused within a system cycle, further comprising:

e) means for saving the current hardware resource information from a current use,

wherein the changes for scheduling hardware resources are implemented in real time while the wireless communication device is operating.

Claim 33. An apparatus for dynamically implementing changes for scheduling hardware resources in a wireless communication device having a memory, the apparatus comprising:

a) means for locating a current address in the memory, the current address containing operating information associated with a current hardware resource;

b) means for transmitting operating information associated with the current address to the current hardware resource;

c) means for reading a pointer associated with the current address, that identifies another address containing operating information for another hardware resource of the device; and

d) means for determining whether the current hardware resource is reused within a system cycle;

wherein if the current hardware resource is not reused within a system cycle, further comprising:

e) means for determining whether operation should be terminated,

wherein the changes for scheduling hardware resources are implemented in real time while the wireless communication device is operating.

Claim 34. The apparatus of claim 32, wherein a hardware resource is at least one of a searcher element, a downlink transmitter element, matched filter element, or tracker element.

EVIDENCE APPENDIX

All evidence is in the record.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings for this matter.